

VEYNBERG, Kh.O., sostavitel'; GUSEV, P.A., redaktor; NIKOLENKO, A., redaktor; STRELETSKIY, I., tekhnicheskiiy redaktor.

[Handbook of work and wages] Spravochnik po trudu i zarplate.
Moskva, Gos. izd-vo legkoi prom., 1954. 159 p. (MLRA 7:11)

1. Russia (1923- U.S.S.R.) Narodnyy komissariat tekstil'noy
promyshlennosti.
(Labor laws and legislation)

QUSEV, P.A.

New wages and qualifications handbook. Tekst. prom. 17 no.4:11-12
Ap '57. (MLRA 10:4)
(Textile industry) (Wages)

GUSEV, P.F., inzhener

Work of the Technical Council of the Ministry of Construction
for Metallurgical and Chemical Industries in the first half
year of 1956. Stroi. prom. 34 no.9:49-50 S '56. (MLRA 9:10)

(Construction industry)

GUSEV, P.F.

Preventing the wear of the table armor of a disk feeder.

Sbor. rats. predl. vnedr. v proizvod. no.2:13 '61.

(MIRA 14:7)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat, Lebyazhinskiy
rudnik.

(Ore dressing—Equipment and supplies)

GUSEV, P. G.

"Influence of Water-Heat Treatment of Buckwheat on the Technological Effect of Hulling and the Quality of the Buckwheat Groats." Min Higher Education USSR, Main Administration of Chemicotechnological Institutions of Higher Education. Odessa Inst of Engineers of the Flour Grinding Industry and of Elevator Economy imeni I. V. Stalin, Odessa, 1952 (Dissertation for the Degree of Candidate of Technical Sciences)

SO: Knizhnaya Letopis', No. 32, 6 Aug 55

GUSEV, P., kandidat tekhnicheskikh nauk; SHEVCHENKO, P., inzhener.

Steam treatment of buckwheat. Muk.-elev.prom. 21 no.1:17-19 Ja '55.

(MLRA 8:5)

1. Odesskiy tekhnologicheskii institut im. I.V.Stalina (for Gusev).
2. Glavnoye upravleniye mukomol'noy, krupyanoy i kombikormovoy promyshlennosti (for Shevchenko).

(Buckwheat)

GUSEV, P. G.

Grain storage in the Altai Territory up to the 20th Congress of the
Communist Party of the U.S.S.R. Muk.-elev.prom.22 no.2:6-7 P '56.
(MIRA 9:6)

1. Altayskaya krayevaya kontera Zagotzerno.
(Altai Territory--Grain--Storage)

GUSEV, P., kandidat tekhnicheskikh nauk; KHABE, L., inzhener.

Hydrothermal treatment of millet. Muk.-elev.prom 22 no.9:22-24
S '56. (MIRA 10:8)
(Millet)

GUSEV, P.G.

Characteristics of the humus composition of soils in the steppe and
piedmont Crimea. Nauch.dokl.vys.shkoly; biol.nauki no.3:192-197 '65.
(MIRA 18:8)

1. Rekomendovana kafedroy pochvovedeniya Krymskogo sel'skokhozyaystven-
nogo instituta.

GUSEV, P.I.
KOVUN, P.K., NEVZOROV, A.P., ANTONENKO, G.P.; BUDINA, L.V.; VORONINA, Ye.P.;
GUSEV, P.I.; YELAGIN, M.N., ZHURAVLEV, M.A., ZALOZNIY, K.D.; KOMKOV, V.N.;
KOROBV, A.S.; KORCHAGIN, V.N.; LAVROV, V.N.; LAPSHINA, O.V.; LUTIKOV, I.Ye.;
MAKEVNIN, A.Ya.; MOROZOVA, F.I.; NEVZOROV, A.P.; PONOMARCHUK, M.K.; PUCH-
KOV, A.M.; RAZMOLOGOVA, A.M.; RUBIN, S.M.; SELEZNEVA, O.V.; SEMENOVA, F.I.;
SPIRIDONOVA, A.I.; SUSHCHEVSKIY, M.G.; USOV, M.P.; TARKOVSKIY, M.I.;
CHENYKAYEVA, Ye.A.; SHENDRIKOV, G.L.; SHUL'GIN, G.T.; TSITSIN, N.V., aka-
demik, redaktor; REVENKOVA, A.I., redaktor; KHOKHRINA, N.M., khudozhestven-
nyy redaktor; VESKOVA, Ye.I., tekhnicheskij redaktor; PEVZNER, B.I.,
tekhnicheskij redaktor.

[Plant breeding at the 1955 All-Union Agricultural Exhibition] Rastenie-
vodstvo na Vsesoiuznoi sel'skokhoziaistvennoi vystavke 1955 goda. Moskva,
Gos. izd-vo sel'khoz. lit-ry, 1956. 687 p. (MLRA 10:4)
(Moscow--Plant breeding--Exhibitions)

TERENT'YEV, A.V.; MOREV, A.N.; GUSEV, P.I.; CHERNYSHOV, I.G., redaktor;
KUZ'MINA, V.S.; KISINA, Ye.I., redaktor.

[Construction and maintenance of centrifugal fish-pumping
equipment] Ustroistvo i obalushivanie rybonasosnykh ustanovok
tse ntrob ezhnogo deistviia. Moskva, Pishchepromizdat, 1955.144p.
(MLRA 9:5)

(Fishing--Implements and appliances) (Centrifugal pumps)

ADAM, F. T.

36347 Mashiny dlya kompleksnoy mekhanizatsii robot :ri sozdani :oiz-
zashchitnykh lesnykh polos. Les i step', 1979, No. 6, S. 74-80

30: Letopis' Zhurnal'nykh Stroy, No. 47, 1979

GRIGOR'YEV, Il'ya Aleksandrovich, YURBE, Nil Andreyevich; GUSEV, P.I.,
redaktor; SVETLAYEVA, A.S., redaktor izdatel'stva; SHITS, V.P.,
tekhnicheskiy redaktor

[Forestry practices of the Seliger working circle] Opyt raboty
Seligerskogo leskhoza. Moskva, Goslesbumizdat, 1956. 21 p.
(MIRA 9:10)

(Kalinin Province--Forests and forestry)

GUSEV, P.I., starshiy inzh.; KOREN'KOV, K.Ye., inzh.

Investigating the work of the press used in briquetting whale meat
meal. Trudy VNIRO 39:197-206 '59. (MIRA 14:6)
(Whaling—By-products) (Briquets)

L 20758-66 EPF(n)-2/EWA(h)/EWT(1)/EWT(m)/ETC(m)-6/T/EWP(t) IJP(c) GG/WW/JD/DJ
ACC NR: AP6009862 SOURCE CODE: UK/0413/66/006/004/0054/0054

INVENTOR: Gusev, P. I.

ORG: none

TITLE: Method of producing an ultrahigh vacuum. Class 27, No. 178935

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 4, 1966, 54

TOPIC TAGS: vacuum, high vacuum pump, vacuum pump, ultrahigh vacuum, high vacuum technique

ABSTRACT: An Author Certificate introduces a new method of obtaining an ultrahigh vacuum in a container by using preliminary vacuum and low-temperature sorption pumps. To afford differential pumping of gas components, and prevent contamination of the

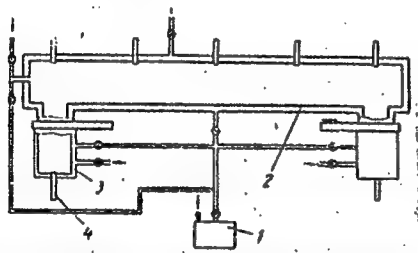


Fig. 1. Vacuum-producing arrangement

1 - Preliminary-vacuum pump; 2 - low-temperature titanium pump; 3 - high-temperature titanium pump; 4 - titanium vaporizer.

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UDC: 621.521.—977.621.528.3

L 20758-66

ACC NR: AP6009862

low-temperature titanium pump,²¹ the vacuum titanium pump² (with its sorption surface preheated to 700—900C) first attenuates the gases, and then the low-temperature pump is applied (see Fig. 1). Orig. art. has: 1 figure. [SA]

SUB CODE: 13, 14/ SUBM DATE: 23Apr64/ ATD PRESS: 4224

Card 2/2

GUSEV, P. P.

20884. Gusev, P. P. Sorta oloshchnykh kul'tur selektsii Polyarnoy stantsii.
(Vsesoyuz. in-T kasheniyevodstva). Sad i ogorod, 1949, No. 6, s. 66-70.

SG: LETOPIS ZHURNAL STATEY - Vol. 28, Moskva, 1949.

GUSEV, P. P.

"An Agrobiological Study of Cabbage in Connection With Selection and Seed Growing Under the Conditions Which Exist in the Kol'sk Peninsula." Cand Agr Sci, All-Union Inst of Plant Growing, Leningrad, 1953 (RZhBiol, No 6, Nov 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (11)

SO: Sum. No.521, 2 Jun 55

USEV, P. K.

Author : Gusev, P. K.
 Title : Best Varieties of Fruit-Berries and Nut Crops for Production Development

Orig Pub : Michurinsk. sb., Kraevedar, "Dov. Kuban", 1957, 48-61

Abstract : The world assortment of fruit-berries and nut crops was studied in the Mikrop experimental station of the All-Union Institute of Plant Cultivation. Over 4000 varieties are grown in their collections: about 1300 apple tree varieties, 650 pear, 1500 plum, Prunus divaricata and other varieties. As a result of the study of the world collection of apple trees, 33 varieties were regionalized, 168 varieties were singled

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out for variety testing. From the pear trees 25 of the best varieties of various periods of ripening were selected. 42 varieties of plums and prunes were singled out. 18 of them were regionalized in the kray and 19 were accepted for testing in the southern zone of RSFSR. 46 varieties, 12 of which entered into the standard assortment of the kray, were selected and submitted for variety testing from 500 varieties and specie-samples of berry crops. There are 127 varieties and species of nut crops in the station's collections. 12 varieties of "fanduk" and 6 elite forms of walnut were selected and recommended for testing. From the hybrid fund of the station were chosen 40 elite seedlings, from which 2 strawberry varieties, 13 elite seedlings of apple tree, and 20 elite seedlings of

Card 2/3

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prunes were selected. Brief descriptions of the best varieties and of the hybrids are given. -- A. K. Shevchenko

GUSEV, P., nauchnyy sotrudnik

Forage cabbage in the North. Nauka i pered.op. v sel'khoz.
9 no.3:24-25 Mr '59. (MIRA 12:5)

1. Polyarnaya opytnaya stantsiya Vsesoyuznogo instituta
rasteniyevodstva, g.Khibiny, Murmanskoy oblasti.
(Russia, Northern--Cabbage)

GUSEV, P.P., kand.biol.nauk; GUSEVA, N.A.

Heterosis in tomatoes and its utilization in the Far North.

Trudy po prikl. bot., gen. i sel. 32 no.3:133-138 '59.

(MIRA 14:5)

(Russia, Northern--Tomatoes)

(Heterosis)

< GUSEV, P.P., kand.biol.nauk

Significance of late fall and early spring sowing in the breeding
of biennial vegetables and forage root crops. Trudy po prikl. bot.,
gen. i sel. 32 no.3:139-145 '59. (MIRA 14:5)
(Root crops) (Vegetables) (Planting time)

VISHNYAKOV, N.K.; YANCHILIN, L.V. Primalni uchastiye: ABRAMOKHIN,
V.A.; GUSEV, R.G.; IVANOV, P., red.; BELOVA, N., tekhn.red.

[Livestock feeding in the row crop system of agriculture]
Kormlenie zhivotnykh pri propashnoi sisteme zemledeliia. Mo-
skva, Sel'khozizdat, 1963. 133 p. (MIRA 16:8)

1. Nauchnye sotrudniki Altayskogo nauchno-issledovatel'skogo
instituta sel'skogo khozyaystva (for Vishnyakov, Yanchilin,
Abramochkin, Gusev).

(Feeding) (Feeds)

KHRISANFOVA, Anna Ivanovna; SHUBNIKOV, Aleksey Kuz'mich; ZAEHAROV,
Aleksandr Nikitovich; GUSEV, Rostislav Petrovich [deceased];
SKOCHINSKIY, A.A., akademik, otv.red.; BANKVITSER, A.L.,
red.izd-va; SIMKINA, G.S., tekhn.red.

[Inhibitors of oxidation and self-ignition of coal] Ingibitory
dlia bor'by s okisleniem i samovozgoraniem iskopaemykh uglei.
Moskva, Izd-vo Akad.nauk SSSR, 1959. 136 p. (MIRA 13:1)
(Coal--Storage) (Antioxidants)

KHRISANFOVA, A.I.; GUSEV, R.P. [deceased]; SOBOLEVA, G.N.; TISLIN, T.S.

Inhibition of the coal oxidation process. Trudy IGI 14:108-117
'60. (MIRA 13:12)

(Coal) (Oxidation)

GUSEV, R.P. [deceased]

Action of some chemical reagents on the process of coal oxidation.
Trudy IGI 12:30-36 '61. (MIRA 14:3)
(Coal—Storage) (Antioxidants)

GUSEV, S. (Leningrad)

"Very well, we shall fine them..." Sov. profsoiuzy 18 no.24:34
D '62. (MIRA 16:1)

(Leningrad—Machinery industry)
(Labor inspection)

GUSEV, S.A., inzh.

Utilization of peat fuel in the Gorkiy Economic Administrative
Region. Torf. prom. 35 no.6:1-3 '58. (MIRA 11:10)

1.Gor'kovskiy sovnarkhoz.
(Gorkiy Province--Peat)

ALEKSEYEV, Ye.T.; APENCHENKO, S.S.; BASOV, A.P.; BAUSIN, A.F.; BERSHADSKIY, L.S.;
VELLER, M.A.; GINZBURG, L.N.; GUSEV, S.A.; DANILOV, G.V.; DOLGIKH, M.S.;
DRUZHININ, N.N.; YEFIMOV, V.S.; ZAVADSKIY, N.V.; IVASHECHKIN, N.V.;
KARAKIN, F.F.; KUZHMAN, G.I.; LOBANOV, S.P.; MERKULOV, Ya.V.; NIKODIMOV,
P.I.; PANKRATOV, N.S.; PYATAKOV, L.V.; RODICHEV, A.P.; SMIRNOV, M.S.;
STRUKOV, B.I.; SAVOCHKIN, S.M.; SAMSONOV, N.N.; SINITSYN, N.A.; SOKOLOV,
A.A.; SOLOPOV, S.G.; CHELYSHEV, S.G.; SHCHEPKIN, A.Ye.

Fedor Nikolaevich Krylov; obituary. Torf. prom. 35 no.6:32 '58.

(MIRA 11:10)

(Krylov, Fedor Nikolaevich, 1903-1958)

21221
S/099/60/000/007/002/002/XX
D038/D112

12.6000

AUTHOR: Gusev, S.A., Engineer

TITLE: New LKVVIA-3 soil compacting machine

PERIODICAL: Gidrotekhnika i melioratsiya, no. 7, 1960, 61-64

TEXT: From Apr 12 to 16, 1960 a soveshchaniye po primeneniyu vibratsii pri ustroystve osnovaniy sooruzheniy i burenii skvazhin v stroitel'nykh tselyakh (Conference on the Use of Vibration in Foundation-Laying and Well-Drilling for Construction Purposes) was held in Leningrad. It was organized on the initiative of the Leningradskoye pravleniye Nauchno-tekhnicheskogo obshchestva stroitel'noy industrii SSSR (the Leningrad Directorate of the Scientific and Technical Society of the USSR Construction Industry) and by the Institut osnovaniy i podzemnykh sooruzheniy Akademii stroitel'stva i arkhitektury (the Scientific Research Institute of Foundations and Substructures of the Academy of Construction and Architecture of the USSR). The conference was held mainly to discuss research and practical experience in the use of vibration methods in construction and plan further development in this field. The conference was prepared by an organizing committee under the chairmanship of D.D. Barkan, Corresponding Member of the Academy of Construction and Architecture.
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S/092/60/000/007/002/002/XX
D038/D112

New LKVVIA-3 soil compacting machine

ture of the USSR, Doctor of Technical Sciences, Professor. The works of the Leningradskaya Krasnoznamennaya voyenno-vozdushnaya akademiya im. Mozhayskogo (the Leningrad Red Banner Air Force Academy im. Mozhayskiy) on the development of vibro-tamping machines, used by water management organizations to control filtration, were discussed. In 1954 a member of the Academy, Lieutenant-Colonel-Engineer B.A. Belostotskiy, worked out a design for the self-propelled ЛКВВИА-3 (LKVVIA-3) vibro-tamping machine; in 1956 the academy constructed an experimental prototype. The LKVVIA-3 machine is a reversed vibrator in which the maximum of power is expended during the impact of the rammer on the compacted surface, and the minimum of power during the raising of the rammer. The design is illustrated by a schematic diagram (Fig. 2). The machine comprises a trough-shaped welded working platen, two eccentrically-mounted cam shafts, and a heavy solid frame with a rigidly fixed motor on top. The machine successfully passed tests on clayey soils. In two passes it can compact tenacious soil to a depth of 1-1.3 m, has a forward speed of 5-10 m/min and can overcome gradients of 15°. When used to compact tenacious soils its average capacity is 200 m³/hr. It is operated by Card 2/4

1X

New LKVVIA-3 soil compacting machine

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D038/D112

1 man by means of a 1.5 m long control bar. It is stated that the LKVVIA-3 machine could be used for controlling filtration, as hitherto soil-compacting machines had not been mass-produced by Soviet industry. A number of the following soil-compacting mechanisms were also produced for testing in working conditions: C-325 (S-325) soil-compacting machines, TP-652 (TP-E-652) tamping platens, VT-AZNIIGIM (VT-AZNIIGIM) roller rammer, D-302-A (D-302-A) and D-390 (D-390) rollers with falling weights. The table contains comparative data on all equipment described in the article. There are 3 figures and 1 table.

ASSOCIATION: Giprovodkhoz MSKh SSSR

Card 3/4

GUSEV, S.A., inzh.

New ETN-171 trench excavator. Mekh. stroi. 18 no.2:24 P '61.

1. Giprovodkhoz Ministerstva sel'skogo khozyaystva SSSR.
(Excavating machinery)

KVAPILEV, A.I., kand. sel'khoz. nauk; SEREBRYAKOV, K.M., nauchnyy sotrud.;
DEMINA, M.F., kand. biolog. nauk; ZUSMAN, N.S., kand. biolog. nauk;
LEPESHKIN, V.I., nauchnyy sotrud.; LEONTYUK, S.V., kand. veter. nauk;
GUSEV, S.A., kand. veter. nauk; DOBYCHINA, I.N., red.; PROKOF'YEVA,
L.N., tekhn. red.

[Rabbit raising] Krolikovodstvo. Moskva, Gos. izd-vo sel'khoz. lit-
ry, 1960. 311 p. (MIRA 14:9)

1. Sotrudniki Nauchno-issledovatel'skogo instituta pushnogo zverov-
vodstva i krolikovodstva (for all except Dobychina, Prokof'yeva).
(Rabbits)

BLAGONRAVOV, S.I.; BREK, B.M.; BYAKOV, P.T.; VIKTOROV, V.S.; VAGANOV,
V.I.; GUSEV, S.A.; GLEBOV, V.V.; GURILEV, A.M.; DANILOV, G.D.;
ZAV'YALOV, V.G.; IOFFE, Ye.F.; IZVEKOV, G.M.; KONOVALOV, S.A.;
KULIGIN, A.S.; KASATKIN, A.P.; KUZNETSOV, N.I.; LEBEDEV, A.I.;
LEMPERT, Ye.N.; MARGEVICH, Ya.I.; MAYZEL', M.A.; MITYAKOV, V.S.;
NOSKOV, M.M.; RYABCHIKOV, M.Ya.; RATSMAN, N.I.; TVOROGOV, M.K.;
UGOL'NIKOV, V.Ya.; KHAR'KOV, G.I.; CHADOV, S.L.

Lev Mil'evich Matveev; obituary. Torf. prom. 38 no.4:38 '61.
(MIRA 14:9)

(Matveev, Lev Mil'evich, 1914-1961)

GUSEV, S.A., inzh.

Clearance of the mungle in Ceylon. Gidr i mel. 16 no.2:56-59 F
'64. (MIRA 17:3)

1. Vsesoyuznyy institut po proyektirovaniyu vodokhozyaystvennogo i
meliorativnogo stroitel'stva Goszemvodkhoza SSSR.

GRINEVICH, V.F.; GUSEV, S.A.

On virgin lands. Zemledelie 4 no.6:113-115 Je '56. (MLRA 9:8)

1. Glavnyy agronom zernosovkhoza imeni Dokuchayeva Kustanayskoy oblasti (for Grinevich); 2. Glavnyy inzhener zernosovkhoza imeni Dokuchayeva, Kustanayskoy oblasti (for Gusev).
(Kustanay Province--Water supply, Rural) (Agriculture)

1
GUSEV, S. A. Cand Agr Sci -- (diss) "Comparative Effectiveness of
Primary and
Certain Types of Occupied Fallow Lands and ~~Unoccupied Fallow Land~~
Under Conditions of the Northwestern part of Tambovskaya Oblast."
Mos, 1957. 17 pp 20 cm. (Mos Order of Lenin Agricultural Academy
im K. A. Timiryazev), 110 copies (KL, 25-57, 115)

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- 96 -

USSR / Cultivated Plants. General Problems.

M-1

Abstr Jour : Ref Zhur - Biologiya, No 13, 1958, No. 58485

Author : ~~Gusev, S. A.~~

Inst : Not given

Title : The Replacement of Virgin Fallows by Occupied Ones in the Tambov Oblast

Orig Pub : Zemledeliye, 1957, No 4, 14-19

Abstract : The utilization of occupied fallows to sow winter crops in regions where the annual precipitation is 450-500 mm is recommended. The crops in the fallows are: vetch-oats, vetchling-oats mixtures and corn for ensilage. Water reserves under occupied fallows were somewhat lower than under the virgin fallows. At a depth of 0-30 cm, they ranged from 130 t/ha under corn to 260.5 t/ha under vetch-oats mixture. A slowing down of nitrification processes was observed in occupied fallows in

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USSR / Cultivated Plants. General Problems.

M-1

Abs Jour ; Ref Zhur - Biologiya, No 13, 1958, No. 58485

comparison with the virgin ones. Therefore, winter crops, sowed over occupied fallows must be fertilized with P, K and N in the fall. The yield of winter rye over occupied fallows constituted 88.4-95.8% of the yield over the virgin fallows. The total yield of crops on the occupied fallows exceeded the yields on virgin fallows by 150-331% in fodder units. -- S. A. Nikitin

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GUSEV, S.A., aspirant.

Comparative effectiveness of clean and green fallows in Tambov
Province. Dokl. TSKhA no. 28:151-157 '57. (MIRA 11:4)
(Tambov Province--Fallowing)

GUSEV, S.A., kand. sel'skokhoz. nauk; TOLOPILOV, V.P., agronom

Potato storage. Zashch. rast. ot vred. i bol. 7 no.9:
35-37 S '62. (MIRA 16:8)

1. Institut kartofel'nogo khozyaystva, s. Korenevo, Moskovskoy
obl.

(Potatoes—Storage)

GUSEV, S.A., kand.sel'skokhoz.nauk

How to prevent potato diseases during storage. Zashch. rast. ot
vred. i bol. 8 no.9:26-27 S '63. (MIRA 16:10)

1. Institut kartofel'nogo khozyaystva.

GUSEV, S.A., inzh.; ZHUKHOVITSKIY, B.Ya., kand.tekhn.nauk; ZARIN, D.D.,
kand.tekhn.nauk; IVANOV-SMOLENSKIY, A.V., kand.tekhn.nauk;
KHYAZEVSKIY, E.A., kand.tekhn.nauk; KUZNETSOV, A.I., inzh.;
KOZIS, V.L., kand.tekhn.nauk; KORYTIN, A.A., inzh.; LASHKOV,
F.P., inzh.; L'VOV, Ye.L., kand.tekhn.nauk; MELESHKINA, L.P.,
kand.tekhn.nauk; NEKRASOVA, N.M., kand.tekhn.nauk; NIKULIN,
N.V., kand.tekhn.nauk; POLEVOY, V.A., kand.tekhnicheskikh
nauk; RAZEVIK, D.V., kand.tekhn.nauk; ROZANOV, G.M., kand.tekhn.
nauk; RUMSHISKIY, L.Z., kand.fiz.-matem.nauk; SVISTOV, N.K.,
kand.tekhn.nauk; SIROTINSKIY, Ye.L., kand.tekhn.nauk; SOKOLOV,
M.M., kand.tekhn.nauk; TALITSKIY, A.V., prof.; TREMBACH, V.V.,
inzh.; FEDOROV, A.A., kand.tekhn.nauk; GRUDINSKIY, P.G., prof.;
PRYTKOV, V.T., kand.tekhn.nauk; CHILIKIN, M.G., prof., glavnyy
red.; GOLOVAN, A.T., prof., red.; PETROV, G.N., prof., red.;
FEDOSEYEV, A.M., prof., red.; ANTIK, I.V., red.; SKVORTSOV, I.M.,
tekhn.red.

[Handbook for electric engineering] Elektrotekhnicheskii spravochnik. Moskva, Gos.energ.izd-vo, 1952. 640 p. (MIRA 13:2)

1. Prepodavateli Moskovskogo energeticheskogo instituta imeni V.M. Molotova (for all except Antik, Skvortsov).
(Electric engineering)

GUSEV, S.A.

First industrial three-phase current system in Russia. Trudy po ist.
tekh. no.6:74-84 '53. (MLRA 7:5)
(Electric currents, Alternating---Polyphase)

GUSEV, S.A., inshener.

First Russian three-phase current installation (Novorossiysk electric power plant). Elektrichestvo no.12:65-68 D '53. (MLRA 6:11)

1. Moskovskiy energeticheskiy institut im. Molotova.
(Novorossiysk electric power plants)

GUSEV, S.A., inzhener.

Remarks on the invention of a short-circuited rotor with a double-row squirrel cage. *Elektrichestvo* no.4:67-68 Ap '54. (MLRA 7:5)

1. Moskovskiy energeticheskiy institut im. Molotova.
(Electric motors)

GUSEV, S. A.

AID P - 1219

Subject : USSR/Electricity

Card 1/1 Pub. 27 - 14/34

Author : Gusev, S. A., Eng., Moscow

Title : Discovery of the reversibility of electrical machinery
(History of Electrical Engineering)

Periodical : Elektrichestvo, 12, 70-71, D 1954

Abstract : This discovery is ascribed by the author to the Russian Academician E. Kh. Lenz who in 1833 and again in 1838 reported to the St. Petersburg Academy of Sciences about his experiments. One drawing.

Institution: Moscow Power Engineering Institute im. Molotov

Submitted : No date

GUSEV, Sergey Alekseyevich; KONFEDERATOV, I.Ya., redaktor; MIKHAYLOV-
MIKLINSKIY, M.S., redaktor; FRIDKIN, A.M., tekhnicheskiy redaktor.

[Outline history of the development of electric machinery]
Ocherki po istorii razvitiia elektricheskikh mashin. Moskva, Gos
energeticheskoe izd-vo, 1955. 215 p. (MLRA 8:8)
(Electric machinery)

ALEKSANDROV, A.G., dots; ARONOVICH, I.S., inzh.; BABIKOV, M.A., doktor tekhn.nauk; BATUSOV, S.V., kand.tekhn.nauk; BEL'KIND, L.D., doktor tekhn.nauk; VENIKOV, V.A., doktor tekhn.nauk; VESELOVSKIY, O.N., kand.tekhn.nauk; GOLOVAN, A.T., doktor tekhn.nauk; GOLUBTSOVA, V.A., doktor tekhn.nauk; GREYNER, L.K., inzh.; GRUDINSKIY, P.G., prof.; GUSEV, S.A., inzh.; DMOKHOVSKAYA, L.F., kand.tekhn.nauk; DROZDOV, N.G., doktor tekhn.nauk; IVANOV, A.P., doktor tekhn.nauk [deceased]; KAGANOV, I.L., doktor tekhn.nauk; KSENER, L.L., inzh.; KOCHENOVA, A.I., kand.tekhn.nauk.; LARIONOV, A.N.; MINOV, D.K., doktor tekhn.nauk; METUSHIL, A.V., doktor tekhn.nauk; NIKULIN, N.V., kand.tekhn.nauk; NIKOLAI, R.A., prof.; PARTYUSHIN, V.S., prof.; PASYNKOV, V.V., doktor tekhn.nauk; PETROV, G.M., doktor tekhn.nauk; POLIVANOV, K.M., doktor tekhn.nauk; PRIVEZMENTSEV, V.A., doktor tekhn.nauk; RADUNSKIY, L.D., inzh.; RENNE, V.T., doktor tekhn.nauk; SVENCHANSKIY, A.D., doktor tekhn.nauk; SOLOV'YEV, I.I., doktor tekhn.nauk; STUPEL' F.A., kand.tekhn.nauk; TALITSKIY, A.V., prof.; TEMNIKOV, P.Ye., kand.tekhn.nauk; FEDOROV, L.I., inzh.; FEDOSEYEV, A.M., doktor tekhn.nauk; KHOLYAVSKIY, G.B., inzh.; CHECHET, Yu.S., doktor tekhn.nauk; SHNEYBERG, Ya.A., kand.tekhn.nauk; SHUMILOVSKIY, N.N., doktor tekhn.nauk; ANTIK, I.B., red.; MEDVEDEV, L.Ya., tekhn.red.

[The history of power engineering in the U.S.S.R. in three volumes]
Istoriia energeticheskoi tekhniki SSSR v trekh tomakh. Moskva, Gos. energ. izd-vo.

(Continued on next card)

ALEKSANDROV, A.G.--(continued) Card 2.

Vol.2. [Electric engineering] Elektrotehnika. Avtorskii kollektiv
toma: Aleksandrov i dr. 1957. 727 p. (MIRA 11:2)

1. Moscow. Moskovskiy energeticheskiy institut. 2. Chlen-korrespondent AN SSSR (for Larionov)
(Electric engineering)

GUSEV, S.A., inzhener.

Development of using built-in resistances in switches. Izobr. v SSSR
2 no.1:23-26 '57. (MIRA 10:4)

(Electric switchgear)

GUSEV, Sergey Alekseyevich; EPSHT'EYN, G.L., red.; BORUKOV, N.I.,
tekhn.red.

[History of the development of a.c. circuit breakers] Ocherki
po istorii razvitiia vykliuchatelei poremennogo toka. Moskva,
Gos. energ. izd-vo, 1958. 285 p. (MIRA 12:1)
(Electric circuit breakers)

BACHURIN, N.I., inzh.; VOLKOV, S.S., inzh.; GORODETSKIY, S.S., prof.,
 doktor tekhn. nauk; GUSEV, S.A., dotsent, kand. tekhn. nauk;
 ZHUKHOVITSKIY, B.Ya., dots., kand. tekhn. nauk;
 IVANOV-SMOLENSKIY, A.V., dots., kand. tekhn. nauk; KIFER,
 I.I., dots., kand. tekhn.nauk; KORYTIN, A.A., starshiy pre-
 podavatel'; KULIKOV, F.V., dots.; NIKULIN, N.V., dots., kand.
 tekhn. nauk; PODMAR'KOV, A.N., dots.; PRIVEZENTSEV, V.A., prof.,
 doktor tekhn. nauk; RUMSHINSKIY, L.A., dots., kand. fiz.-mat.
 nauk; SOBOLEV, V.D., dots., kand. tekhn.nauk; URLAPOVA, M.N.,
 inzh.; TIKHOMIROV, P.M., dots., kand. tekhn. nauk; FEDOROV,
 A.A., dots., kand. tekhn. nauk; CHUNIKHIN, A.A., dots., kand.
 tekhn. nauk; CHILIKIN, M.G., prof., glav. red.; GOLOVAN, A.T.,
 prof., red.; GRUDINSKIY, P.G., prof., red.; PETROV, G.N., prof.,
 doktor tekhn. nauk, red.; FEDOSEYEV, A.M., prof., red.; ANTIK,
 I.V., inzh., red.; BORUNOV, N.I., tekhn. red.

[Electrical engineering handbook]Elektrotekhnicheskii spra-
 vochnik. 3., perer. i dop. izd. Pod obshchei red. A.T.
 Golovana i dr. Moskva, Gosenergoizdat. Vol.1. 1962. 732 p.
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1. Moskovskiy energeticheskii institut (for Golovan, Grudinskiy,
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mekhanik (Leningrad)

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GUSEV, Sergey Alekseyevich; NIKLIT, P.Z., red.

[Development of the Soviet electrical equipment industry]
Razvitiye sovetskoi elektrotekhnicheskoi promyshlennosti.
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GUSEV, S. F.

Gusev, S. F.

"Investigation of the process of deadification of metal in a weld seam using the alloying elements in the welding rod in the electric-arc welding of low-carbon steel." Min Higher Education USSR. Moscow Aviation Technological Inst. Moscow, 1956. (Dissertation for the Degree of Candidate in Technical Science.)

So: Knizhnaya letopis'
No. 25, 1956. Moscow

KABANOV, Nikolay Sergeyevich; SLEPAK, Ezra Shmulevich; GUSEV, S.F., kand.
tekhn. nauk, retsenzent; SOBOLEVA, G.N., red. izd-va; CHERNOVA,
Z.I., tekhn. red.

[Technology of resistance butt welding] Tekhnologiya stykovoï kon-
taktnoi svarki. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit.
lit-ry, 1961. 249 p. (MIRA 14:6)
(Electric welding)

SHNEYDER, V.Ye., kand. ekon. nauk, dots.; TUROVSKIY, I.G., prof.;
ZAK, M.A., kand. ekon. nauk; BOGUSLAVSKIY, A.I., inzh.-
ekon.; SANKISKIY, D.I., kand. ekon. nauk, dots.;
ASTANSKIY, L.Yu., kand. tekhn. nauk; GUSEV, S.G., inzh.-
ekon.; GORSKOV, V.A., inzh.-ekon.[deceased]; IL'IN, S.I.,
inzh.-ekon.; BALDIN, S.A., inzh.-ekon.; NAUMOVA, L.N., kand.
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[Economics, organization and planning for the building
materials industry] Ekonomika, organizatsia i planirovanie
promyshlennosti stroitel'nykh materialov. Moskva, Stroi-
izdat, 1965. 425 p, (MIRA 18:10)

GUSEV, Sergey Georgiyevich; VASIL'YEV, V.P., redaktor; SHNEYDER, V.Ye.,
kandidat ekonomicheskikh nauk, nauchnyy redaktor; SHPAYER, A.L.,
redaktor; PANOVA, L.Ya., tekhnicheskiiy redaktor.

[Accounting, bookkeeping and work analysis in enterprises of the
building materials industry] Uchet, otchetnost' i analiz raboty
predpriyatii promyshlennosti stroitel'nykh materialov. Moskva, Gos.
izd-vo lit-ry po stroitel'nykh materialam, 1954. 230 p. (MLRA 7:11)
(Building materials industry)

BASMANOV, V.A.; BOROVIK, I.P.; GUSEV, S.G.; DOKUCHAYEV, M.M.; KUKUNOV, I.M.; PETROV, S.P.; DORONICHEVA, L.A., nauchnyy red.; FEDOROVA, T.N., red.izd-va; GILSON, P.G., tekhn.red.; RUDAKOVA, N.I., tekhn.red.

[Opencast mining and blasting operations] Otkrytye gornye i vsryvnye raboty. Pod red. I.M.Kukunova. Moskva, Gos.izd-vo lit-ry po stroit., arkhitekt. i stroit.materialam, 1959. 335 p.
(MIRA 13:4)

(Strip mining)

(Blasting)

C A

The presence of dibenzothiophene in coal. S. I. Gusev,
J. Applied Chem. (U. S. S. R.) 17, 178-82(1944) (English
summary).—From the bitumen extd. by aniline from coal
of the Lenin mine was obtained dibenzothiophene, m.
106.5° (from EtOH). This substance apparently existed
within the coal itself and was formed during the carboni-
zation period. G. M. Kosolapoff

21

ASTM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS		PROCESSES AND PROPERTIES INDEX		3RD AND 4TH ORDERS	
<p>ca</p>		<p>The presence of bis-thio ether groups in Kizel coal. S. I. Gusev. <i>J. Applied Chem.</i> (U. S. S. R.) 17, 1022 (1944). In Kizel coal bis-thio ethers $((RS)_2(CH_2)_n)$ were detd. by means of the $CuCl_2$ complex. The upper coal strata contain less thio ether compds. than do the lower strata; the content of thio ethers is 4-5 times that of bis-thio ethers. The smaller the total S content of coal, the higher is the proportion of thio ethers. This fact can be utilized in tracing the genesis of the coal deposits. G. M. K.</p>		<p>21</p>	
<p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>					
<p>1ST AND 2ND ORDERS</p>					
<p>3RD AND 4TH ORDERS</p>					

CA

Reaction of bismuth ion with aniline cobalt dimethyl glyoxime. B. I. Gusev (Mishakovsk State Med. Inst. 1. Applied Chem. USSR 1951 18, 247) (10/10/1951) (high in summary). The complex of the Co complex was shown in $\text{Co}(\text{C}_6\text{H}_5\text{N}_2\text{Me}_2)(\text{PhNH})_2\text{Cl}_2\text{H}_2\text{O}$. Treatment of the chloride with KI soln. gave the corresponding iodide as slightly sol., reddish brown needles. The iodide treated with a soln. contg. Bi ions yielded a yellow turbidity or ppt. which is insol. in water, H_2O , EtOH , and Et_2O , sol. in acetone, ether, and excess KI soln. The ppt. has the compn. $\text{Co}(\text{C}_6\text{H}_5\text{N}_2\text{Me}_2)(\text{PhNH})_2\text{I}_2\text{H}_2\text{O}$. The formation of the ppt. requires the presence of KI. The sensitivity of this reaction is about 0.01 mg. per ex. G. M. K.

ASB-5LA METALLURGICAL LITERATURE CLASSIFICATION

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117 AND TWO OTHERS

The use of certain pyrazolone derivatives in analytical chemistry. S. L. Gusev, *Zhur. Anal. Khim.* 1, No. 2, 114 (2/1946). Zn and Mn can be detd. with picrolonic acid as precipitant. To 10 ml. of a 0.01 N $ZnSO_4$ soln. add 15 ml. of a 0.01 N picrolonic soln. Heat to 50° and keep for 2 hrs. at room temp. Filter through a weighed crucible, wash free of sulfate (about 5 times), and dry at 105° to const. wt. Mn can be detd. similarly. Fe, Al, Ti, and Cr ions do not interfere. The results were satisfactory. Pyrazolone was tested for the detection of Cd in the presence of Zn. This was possible in the presence of 1% $(C_6H_5)_3N \cdot O_2H \cdot 2(C_6H_5)_3N$. The ppt. formed proved to be $(C_6H_5)_3N \cdot O_2H \cdot 2(C_6H_5)_3N$. The ppt., m. 210° (partly decomposed), is white and finely cryst., at 15° 0.1 g. dissolves in 100 ml. of H_2O . To det. Cd⁺⁺ add to 1 ml. of its soln. a few drops of a 10% K_2CrO_4 soln., the same quantity of a 5% pyrazolone soln., and 2-3 drops of a 2 N mineral acid. The ppt. forms within a few sec. The interfering ions are Hg^{++} , Hg^{+} , Cu^{++} , Bi^{++} , and Pb^{++} . The results are not very accurate. By replacing pyrazolone by antipyrine and 1% by H_2O , Cd can be detected in the presence of Cu^{++} . Zn can be detected in the presence of cations from the 1st, 2nd, and 3rd analytical group and in the presence of Cd in an $ArOH$ soln., and in the presence of SCN^- . The sensitivity is 0.1 per ml. Pyrazolone ppts. Co in the presence of SCN^- . The blue ppt. is $(C_6H_5)_3N \cdot O_2H \cdot [Co(SCN)_4]$ very slightly sol. in cold H_2O , sol. in hot H_2O , alc., and ether. The ppt. is stable in air. Hg can be pptd. as $(C_6H_5)_3N \cdot O_2H \cdot [HgI_4]$. Unlike the other ppts. this contains only 1 mol. of pyrazolone. The interaction of antipyrine with $K_2Fe(CN)_6$ ppts. antipyrine $(C_6H_5)_3N \cdot O_2H \cdot [Fe(CN)_6]$. $K_2Fe(CN)_6$ ppts. antipyrine quantitatively. One ml. of 0.05 M $K_2Fe(CN)_6$ soln. is equiv. to 0.01881 g. of antipyrine.

M. Hesch

GUSEV, S. I.

FI 49/49734

USSR/Chemistry-Tungsten
Chemistry-Quantitative Analysis

Nov/Dec 48

"Quantitative Determination of Tungsten," S. I. Gusev,
V. I. Khmov, Chair of Gen Chem, Molotov State Med
Inst, 4 pp

"Zhur Anal Khim" Vol III, No 6

Shows possibility of dissolving ferrotungstate in
oxalic acid and a 30% solution of hydrogen peroxide.
This eliminates necessity of using hydrofluoric acid
which requires special treatment. Piramidon can be
used instead of chinchomine for producing full pre-
cipitation of tungsten in the form of tungstic acid.
Submitted 8 Dec 47.

49/49734

57/49T29

USSR/Chemistry - Quantitative

Chemistry - Antipyrine

May/Jun 49

"Qualitative and Quantitative Determination of Cadmium by Antipyrine Bromide Reagents," S. I. Inet, 8 pp

"Zhur Abel Khim" Vol IV, No 3

Results with new reagent suggest possibility that it may replace potassium cyanide and hydrogen sulfide in determining cadmium in the presence of copper. Also presents a new method to determine

USSR/Chemistry - Quantitative Analy-

57/49T29

sis (Contd)

May/Jun 49

cadmium in the presence of magnesium, aluminum, zinc, and iron. Accuracy of this method compares favorably with that of the hydrogen sulfide - sulfuric acid method. Submitted 3 Dec 47.

57/49T29

USSR

"Application of Antipyrine, Pyramidon, and Picro-lonic Acid
in Analytical Chemistry." Thesis for degree of Dr. Chemical Sci.
Sub. 17 Nov 50, Moscow Order of Lenin State U imeni M. V. Lomonosov

Summary 71, 4 Sep 52, Dissertations Presented for Degrees
in Science and Engineering in Moscow in 1950. From Vechernyaya Moskva,
Jan-Dec 1950.

B.C.

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747. Photo-nephelometric determination of mercury by the antipyrine-iodide reagent. S. I. Gusev [J. anal. Chem., USSR, 1950, 5, 375-380].—In 0.2–0.5N-HCl antipyrine and K_2HgI_4 yield difficultly sol. antipyrine mercuric iodide, $(\text{C}_{11}\text{H}_9\text{ON}, \text{HgI}_2)_2$, m.p. 126°, easily sol. in NaOH, decomposed by HNO_3 (giving I), and stable towards AgNO_3 . For nephelometric determination of Hg the Hg solution (10 ml.) is mixed with a 3% KI solution (4 ml.) in 3% antipyrine solution, and 2N-HCl (0.3 ml.), and compared with standards after 30 min. The min. amount of Hg detectable is 0.4 μg . in 1ml. In presence of Bi, Cu, Cd, Sb, and Pb, prior

separation of Hg (with As as carrier) by means of hypophosphorous acid is necessary. G. S. SMITH.

177T10

GUSEV, S. I.

USSR/Chemistry - Vanadium Compounds Jan/Feb 51

"Quantitative Determination of Vanadium With
Dianthipyrylphenylmethane," S. I. Gusev, R. O.
Beyles, Ye. V. Sokolova, Chair Gen Chem and
Biochem, Molotov State Med Inst

"Zhur Analit Khim" Vol VI, No 1, pp 43-48

Dianthipyrylphenylmethane (I) in acid will ppt V^{5+}
as difficultly sol compd $((C_{11}H_{11}ON)_2CH_2CH_5)_2$
 H_4VO_7 (II). Developed new method for gravimetric
detch of V (as V_2O_5 or II) in presence of

177T10

USSR/Chemistry - Vanadium Compounds Jan/Feb 51
(Contd)

H_2SO_4 , $NaNO_3$. Showed possibility of volumetric
detch of V by dissolving II in alkali and titrating
excess of alkali. Showed possibility of volumetric
detch of V in ferrovanadium with I.

177T10

CA

6

Reaction of some pyrazolone derivatives with the ferric ion and with cyanide complexes. S. I. Gogoy and R. A. Belen (State Med. Inst., Moscow). *Zhur. Obshch. Khim.* (J. Gen. Chem.) 21, 1971-3(1951).—Addn. to 20 ml. 5% aq. soln. of antipyrine of 0.2 g. $\text{Fe}(\text{SO}_4)_3$ in 5 ml. H_2O , followed by 6 ml. 5% aq. $\text{K}_3\text{Fe}(\text{CN})_6$ gave a flocculent ppt., which after washing and drying at 110–20° was a deep-red powder, rather insol. in H_2O and slowly hydrolyzed especially on heating in presence of acids, yielding Fe^{+++} ion. Analysis indicates the structure $[\text{Fe}(\text{C}_8\text{H}_7\text{ON}_3)_3]^{+}[\text{Fe}(\text{CN})_6]^{4-}$. With FeSO_4 it yields Turnbull blue. A similar reaction of antipyrine, $\text{Fe}(\text{SO}_4)_3$, and Na nitroprusside yields an analogous product, $[\text{Fe}(\text{C}_8\text{H}_7\text{ON}_3)_3][\text{Fe}(\text{CN})_5\text{NO}]$. Both form trihydrates. Treatment of $\text{Na}_2\text{NH}_4[\text{Fe}(\text{CN})_5\text{NH}_2]$ with NaNO_2 in acid soln. yields $\text{Na}_2[\text{Fe}(\text{CN})_5\text{NH}_2]$, a soln. of which gradually added to the ferrypyrine soln. above gave red-brown powder, $[\text{Fe}(\text{C}_8\text{H}_7\text{ON}_3)_3][\text{Fe}(\text{CN})_5\text{NH}_2] \cdot 12\text{H}_2\text{O}$; the H_2O is lost on drying. Treatment of antipyrine in aq. soln. with FeNH_4 alum and $\text{Na}_2[\text{Co}(\text{CN})_5]$ gives deep-red $[\text{Fe}(\text{C}_8\text{H}_7\text{ON}_3)_3][\text{Co}(\text{CN})_5]$, which forms a tetrahydrate. None of the products show cryst. structure G. M. Kosolapoff

GUSEV, S.I.; BYLES, R.G.

Use of diantipyryl-phenylmethane in analytical chemistry. II. J. anal.
Chem. USSR, '52, 7, 219-225. (MLRA 5:7)
(BA - A I Mr '53:287)

GUSEV, S.I.

Chemical Abst.
Vol. 48 No. 8
Apr. 25, 1954
Analytical Chemistry

✓ Use of diethylpyrrophenylmethane in analytical chemistry.
K. S. I. Gusev and R. U. Belov (Moscow State Med.
Inst. Gen. Chem., (U.S.S.R.) 7, 245 (1952) (1953)
translation). - See C.A. 47, 18328.
H. L. B.

GUSEV, S. I.

Chemical Abst.
Vol. 48 No. 8
Apr. 25, 1954
Analytical Chemistry

Determination of small quantities of zinc in the atmosphere of industrial establishments. S. I. Gusev and G. A. Mityaev (Moscow Med. Inst.). *Gig. i San.* 1953, No. 11, 48-50. -- Detn. of Zn in the atm. is made by turbidimetric detn. of colorless suspensions formed on treatment of a soln. contg. Zn dithiopyrylmethylmethine-HCl in the presence of the CNS ion at pH 2-2.5; the ppt. is $(C_{11}H_7O_2N)_2 \cdot H_2[Zn(CNS)_4]$. Treat moist antipyrine (5 g.) with 1-2 ml. HCl and 1-2 ml. AcH, heat on a steam bath and cool; heat the product after crystn. in a desiccator. Dil. 1 ml. of 2% soln. with 99 ml. H₂O contg. 1.53 g. NH₄CNS. Evap. the soln. contg. Zn in dil. HCl to dryness with 1 ml. H₂SO₄ until H₂SO₄ fumes cease; take up the residue in 0.3 ml. N HCl, 2 ml. 5% thiourea, 0.03 g. ascorbic acid, and 7.7 ml. pure H₂O (total vol. 10 ml.). To 5 ml. of this soln. add 0 ml. of the reagent, allow to stand 15 min. and measure in a photolec. turbidimeter, calibrated with standard Zn soln. in a similar manner. The presence of Cu⁺⁺ or Fe⁺⁺ even in relatively large amts. does not interfere. G. M. Kosolapoff

1. GUSEV, S.I.; BITOVY, Z.A.
 2. USSR (600)
 4. Food - Analysis
 7. New method of determining zinc in food products, S.I. Gusev, A.A. Bitovt, Vop.
pit. 12 no. 2, 1953.
9. Monthly List of Russian Accessions, Library of Congress, APRIL 1953, Uncl.

GUSEV, S.I.; BITOV, Z.A.; KHOR'KOV, L.K.

Photonephelometric determination of zinc in blood. Biokhimiia 18 no.3:
348-350 My-Je '53. (MLBA 6:7)

1. Molotovskiy meditsinskiy institut.
(Nephelometric analysis) (Zinc) (Blood--Analysis and chemistry)

GUSEV, S. I.

USSR

Use of products of pyrazole in analytical chemistry. Detection and determination of titanium with dianilipyrinyl-4-hydroxyphenylmethane. S. I. Gusev and R. G. Belles. *Trudy Khimich. Anal. Khim. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 5(8), 63-76(1951); cf. *Anal. Ch.* 44, 98534. In an acid Ti soln. dianilipyrinyl-4-hydroxyphenylmethane (I) gives a yellow color suitable for detg. Ti. Properties, and use of this reagent are described. At first the color obtained with Ti^{4+} is less intense than that with Ti^{3+} but after 0.5 hr. the color is completely developed. $TiCl_3$ with I gives a Ti complex (II), orange crystals. $TiCl_3$ with I does not form II but if the mixt. is reduced, II forms quickly. II is sol. in H_2O (1%) and alc. (1%) but not in org. solvents. $AgNO_3$ soln. ppts. $AgCl$ from II. Molar cond. of aq. soln. of II indicates 3 ions. II is not destroyed by heating with H_3PO_4 or HF but if they are present with Ti before I is added, II is not formed. Comps. similar to I but without an OH group, or with $p-OH$ group do not give a Ti complex. The soln. of II is neutral. If $TiCl_3$ reacts with the sulfate salt of I, II is still formed. Ti^{4+} with I gives a substance sol. in alc. and easily reduced. This reduction probably occurs in dil. solns. by the excess of I and accounts for the time required for full color development when Ti^{4+} is present. To det. Ti in solns., W^{6+} and Mo^{6+} interfere. Fe^{3+} with I gives a brown color which disappears when H_3PO_4 is added. Reduction to Fe^{2+} is also suggested. V^{5+} salts form a ppt. sol. in dil. alc. If the aunts. are not too

(over)

7/1/51

large; Cr, Ni, and V can be compensated for in the titrimetric method by adding them to the standard soln. Salts of Bi, Sn, and Sb form white ppt. sol. in aq. alc. and do not interfere. Pb salts do not interfere. They give heavy white crystals which can be filtered off. UO_2^{2+} forms a yellow-green color which disappears on acidification. Observed mwt. of I is 335 g/mol. Reaction of I with ClO_4^- , iodide, SCN^- , NO_3^- , and CrO_4^{2-} gives slightly sol. crystals. The HCl salt of I (III) is obtained almost quantitatively by adding 5 g. salicylaldehyde and 10 ml. conc. HCl to 15 g. antipyrine treated with 10 ml. alc. After 2 hrs. 200 ml. H_2O is added gradually. Crystals are filtered off, washed with 0.5% HCl, and dried at 60-70°. Samples for analysis are recrystd. from N HCl and washed with a little H_2O . The soly. in H_2O (0.1%) and alc. (5.5%) greatly increases on acidification. Substitution of H_2SO_4 (d. 1.83) or 7.5N HNO_3 for HCl in this synthesis gives sulfate or nitrate salts. It is obtained by adding 20% NaOH to III. The Na product is dissolved in considerable H_2O and I is pptd. by introducing CO_2 . Amal's method for I is simpler. Crystals of I, II, and III are shown. II is obtained by adding 15 ml. 15% TiCl_3 soln. to 10 g. I and 10 ml. alc. and heating the dark mass to complete soly. The whole prepn. is made under CO_2 . The soln. is cooled, crystals are filtered off, and recrystd. from alc., giving 6 g. II plus abt. 3.2 g. from the mother liquor. Mineral acids do not act on the inner complex even with heating; alkali hydrosulfide hydrolyzes it with pptn. of hydrated TiO_2 . III decomp.

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without melting, above 250°. The reagent for tests is a 2% soln. of III in 90% alc. with 10 drops concd. HCl and 0.1-0.2 g. hydroquinone in 100 ml. of soln. To detect Ti in the presence of Fe, add the reagent to the test soln. After 0.5 hr. add several drops of concd. H_3PO_4 . In the presence of Ti the brown color becomes yellow; in absence of Ti the soln. is colorless. In the presence of Fe^{2+} , V^{3+} , and Cr^{3+} the test soln. is acidified with HCl and reduced by Zn strips until no reaction of Fe^{2+} with SCN^- is obtained. Reagent is added and a yellow color indicates Ti. Mo^{6+} and W^{6+} interfere. Known colorimetric mixts. were prepd. by mixing 0 ml. Ti soln. (Standard $TiCl_3$ solns. contg. 5-20 γ Ti/ml.), 3 ml. alc., and 1 ml. reagent. The color intensity can be measured visually after 0.5 hr. and does not decrease with time. High HCl concn. (10%) delays the color development; HNO_3 has no effect. Sulfates delay color development; more than 5% H_2SO_4 prevents complete development. Synthetic mixts. contg. 1 ml. of known Ti soln., 2 ml. $NFeCl_3$, and 1 ml. of V^{3+} salt (contg. 0.5 mg. V) were treated with 5 ml. alc. and 1 ml. reagent. After 0.5 hr. 5 drops H_3PO_4 was added and the intensity was measured. Relative error was 0-8% for 7 mixts. contg. 5-30 γ Ti. Analogous results were obtained if the mixts. were reduced with Zn before reagent was added (H_3PO_4 was then omitted.) Directions are given in detail for the analysis of steel.

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GUSEV, S. I.

1510. The nephelometric determination of arsenic with a phenazone-molybdate reagent. S. I. Gusev and Z. A. Bityut. *Sov. Khim. Razv. Khim. Ind. Mol. Sci.*, 1956, 3-6; *Russ. Zhur. Khim.*, 1956, Abstr. No. 29,331. To 7 ml of soln. add 7 ml of reagent (0.5 g of ammonium molybdate in 18.5 ml of water; it poured into 16 ml of conc. HNO₃, 1 g of phenazone is added, and the soln. is diluted with 80 ml of water). Mix carefully with a glass rod and transfer to a cell of a compensating photoelectric nephelometer; the second cell contains a soln. of 7 ml of water and 7 ml of reagent. After 10 min. note the galvanometer reading. A curve is drawn showing the relationship of the galvanometer reading to the concn. of As. Proportionality is observed for 0 to 55 µg of As. Up to 2000 mg of Ca, 1000 mg of Mg, 50 mg of Mn, 50 mg of Al and 2 mg of Fe per ml do not interfere in the detection of 0.1 µg of As. In the presence of PO₄³⁻ separate the As by using the Fie reagent; quickly wash the ppt., dissolve it in bromine water and after removal of Br determine the As as described above.

S. I. Gusev

Gusev, S. I.

Use of 2-hydroxy-1-naphthalaldehyde in analytical chemistry. I. Gravimetric and volumetric semimicro determination of magnesium. S. I. Gusev, V. I. Karmov, and A. M. Striganova. *J. Anal. Chem. U.S.S.R.* 10, 331-41 (1955) (Engl. translation).—See C.A. 50, 7054e.

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Gusev, S. I.

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✓ 2048. Use of 2-hydroxy-1-naphthaldehyde in analytical chemistry. I. Gravimetric and volumetric semi-micro determinations of magnesium. Gusev, V. I. Kuinov and A. M. Sizova (Moscow, Acad. Inst.). *Zhur. Anal. Khim.*, 1956, 10 (10), 319-354. By adding 100 ml of ethanolic M 2-hydroxy-1-naphthaldehyde (I) and 5 ml of 10 per cent. NH_4Cl soln. to 50 ml of 0.1 M MgCl_2 , then heating to 60° C and adding 5 ml of 25 per cent. aq. NH_3 , characteristic greenish-yellow crystals of a complex, $\text{C}_{10}\text{H}_7\text{O}_2\text{Mg}$, containing 6.633 per cent. of Mg are pptd. The complex is difficultly sol. in water (0.006 per cent. at 15° C) and ethanol (0.01 per cent. at 15° C), is insol. in ether, decomposed by N NaOH to give $\text{Mg}(\text{OH})_2$, and sol. in dil. acids, being re-pptd. on neutralisation. Gravimetric determination of Mg. The soln. of MgCl_2 , containing

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S. I. Gusev, V. I. Kumov . . .

about 1 mg of Mg per ml (with carnallite, 5-6043 g are dissolved in 250 ml of water) is treated with 0.2 g of NH_4Cl , ethanol to give a 60 per cent. soln., and 0.5 ml of conc. aq. NH_3 . A 2 per cent. soln. of I in ethanol (2 ml for each mg of Mg) is added slowly to the soln. at 60° C and the sides of the beaker are rubbed with a glass rod, if necessary, to start pptn. After 30 to 35 min. the ppt. is filtered off in a glass filtering crucible, washed with 50 per cent. ethanol soln. and dried at 125° to 130° C. Volumetric determination of Mg—The washed ppt. as obtained in the gravimetric procedure is dissolved in a conical flask in 40 ml of ethanol and 30 ml of 0.1 N HCl, methyl red indicator is added, and the excess of acid is titrated with 0.1 N NaOH (1 ml of 0.1 HCl is 0.001216 g of Mg or 0.01833 g of the complex). With minerals containing SiO_2 , Ca, Al and Fe, 0.5 to 2.5 g. according to the content of Mg, are dissolved in HCl, the insol. matter is filtered off, Al and Fe are pptd. as hydroxides, and Ca is removed as oxalate; the soln. is then evaporated to between 10 and 13 ml and the procedure given above is then followed. The method is applicable also to the determination of Mg in alloys, e.g., Elektron.

G. S. SMITH

Gusev, S. I.

✓ 1125. Use of 3-hydroxy-2-naphthaldehyde in analytical chemistry. 1. New gravimetric semi-micro method for determining copper. S. I. Gusev and V. I. Kuznetsov (Moscow Medical Institute, Moscow, U.S.S.R.), *Anal. Khim.*, 1966, 11 (3), 303-304. To determine Cu in brass, the sample (0.1 g) is dissolved in conc. HNO_3 and aq. NH_3 is added; any ppt. is filtered off and washed with water. The filtrate is diluted to 100 ml in a calibrated flask and 5 ml, mixed with 3 ml of 95% ethanol and 1 ml of 25% aq. NH_3 , is boiled and treated with 6 ml of 1.3% soln. of 3-hydroxy-2-naphthaldehyde. The pptd. copper complex is collected after 25 to 30 min. in a filtering crucible, washed with water and then dried at 115° to 120°. In alloys containing Al, Fe and Cr, interference is prevented by means of tartaric acid. Nickel, if present, must be removed by means of dimethylglyoxime. To determine Cu in malachite and copper-bearing sandstone, the sample (0.1 to 0.2 g) is dissolved in HNO_3 , insol. matter is filtered off and the filtrate is diluted to 100 ml. A 10 ml aliquot is mixed with 1 to 3 ml of 10% tartaric acid soln., and then with 5 ml of ethanol and 3 ml of 25% aq. NH_3 . The boiling liquid is treated with 15 ml of the reagent soln. and filtered after 25 to 30 min.

G. S. Sazon

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GUSEV, S. I.

Use of 2-hydroxybenzaldehyde in analytical chemistry.
1. New gravimetric method for determination of copper.
S. I. Gusev and V. I. Kumay. *J. Anal. Chem. U.S.S.R.*
14, 1533 (1959) (English translation).—See C.A. 53,
15330a. H.M.R.

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~~GUSEV, S. I.~~ GUSEV, S. I.

379. The use of 4-hydroxy-1-naphthol in analytical chemistry. III. Gravimetric determination of beryllium. S. I. Gusev, V. Kurov and E. V. Sokolova. *Doklady Akad. Nauk SSSR*, 1957, 12 (1), 48-51. Addition of an ethanolic soln. of 4-hydroxy-1-naphthol (II) to a soln. of Be²⁺ followed by 2% NH₃ at 70°, yields yellow-green crystals of the complex C₁₀H₇O₂Be (after drying at 110°, sol. in conc. HCl and, after long boiling, in 2 N NaOH, and decomposed by heating with 2 N H₂SO₄ to give Be). Insolubilities in water at 10°, ethanol, aq. ethanol (1 + 1) and ether are 0.003, 0.015, 0.65 and 0.63% respectively. For gravimetric determination of Be, the soln. containing Be (1 mg per ml) is treated with five times the theoretical amount of a 2% ethanolic soln. of I so that the concn. of ethanol is 50%. The boiling soln. is mixed with N aq. NH₃ until the odour is detectable, the ppt. is filtered off after 25 to 30 min. and washed with aq. ethanol (1 + 1), and the ppt. is dried at 110° and weighed (1 g in 0.02465 g of Be). Interferences from Ca, Pb and Al can be prevented by the use of EDTA (disodium salt) as masking agent. To determine Be in beryllium bronze, the sample (0.15 g) is dissolved in dil. HNO₃ and the soln. is treated first with 10% aq. NH₃ to give a ppt. and then with conc. HCl dropwise to give a clear soln. The soln. is treated with 7 to 8 ml of a 10% soln. of EDTA and then with water in amount sufficient to give a 20% ethanolic soln. when 25 ml of the ethanolic soln. of I is subsequently added. The further procedure is as described above. G. S. Smirnov

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AUTHORS: Gusev, S. I., Bitovt, Z. A.

75-13-3-12/27

TITLE: The Determination of Zinc With Diantipyrilmethylmethane by the Nephelometric Method (K opredeleniyu tsinka diantipirilmetilmetanom nefelometricheskim metodom)

PERIODICAL: Zhurnal analiticheskoy khimii, 1958, Vol 13, Nr 3, pp. 323 - 326 (USSR)

ABSTRACT: In form of the complex $[Zn(SCN)_4]^{2-}$, diantipyrilmethylmethane, as well as some other derivatives of pyrazolon, can act as very sensitive reagents to zinc. With many organic ammonium-cations this anion forms difficultly soluble compounds (Ref 2). Yatsinirskiy (Ref 3) found, that to precipitate anions with a large inside radius such cations are most suitable as also possess a sufficiently large inside radius. Kuznetsov (Ref 4) found color reactions in fixed phase with organic color bases for the anion $[Zn(SCN)_4]^{2-}$. In the paper concerned the synthesis and characteristics of the tetraazorhodanzincoate of diantipyrilmethylmethane are described with great accuracy, and the optimal conditions for the nephelometric determination of zinc according to this me-

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The Determination of Zinc With Diantipyrilmethylmethane by the Nephelometric Method

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thod are given. The investigations led to setting up of the following reaction equation for the formation of the difficultly soluble zinc complex: $2C_{11}H_{11}ON_2 \cdot CH(CH_3) \cdot C_{11}H_{11}ON_2 + ZnCl_2 + 2HCl + 4NH_4SCN = \left\{ [C_{11}H_{11}ON_2 \cdot CH(CH_3) \cdot C_{11}H_{11}ON_2]_2 Zn(SCN)_4 \right\} + 4NH_4Cl$. Formation therefore takes place during the reaction of zinc ions with diantipyrilmethylmethane and with rhodanides in an acid solution. The complex formed after this reaction is able to cause continued turbidity in highly dilute aqueous solutions. This fact was used for a nephelometric determination method for zinc. The sensitivity of detection is 0.09 μg zinc per ml. With Mg^{2+} , Al^{3+} , Cu^{2+} , Fe^{3+} and Mn^{2+} the reagent does not cause any turbidity under the same conditions of determination. The presence of cations of the 1-st and 2-nd analytic group does not hinder the determination of zinc. Neither does the presence of quantities up to 100 μg manganese, 100 μg aluminum, 1 μg copper, 5 μg nickel and 5 μg cobalt in 1 ml of the solution hinder the determination. Small quantities of trivalent Fe (up to 10 $\mu g/ml$) can be reduced to the divalent stage with the aid

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methane by the Nephelometric Method

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of ascorbic acid or of hydrochinone. Divalent copper is converted into a colorless complex with the aid of thiourea, if it is present in larger quantities than $1 \mu\text{g/ml}$ of the solution. The method described here has been used for the photonephelometric determination of zinc in alloys, sewage (waste waters) and in spring water. In the determination of alloys there are no greater errors than $\pm 10\%$ of the determination result. Determination of zinc in the materials named is described in full detail. There are 1 figure, 7 tables and 5 references, 3 of which are Soviet.

ASSOCIATION: Pernskiy meditsinskiy institut (Perm' Medical Institute)

SUBMITTED: April 2, 1956

1. Zinc--Determination

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5(2)

AUTHORS:

Gusev, S. I., Sokolova, Ye. V.

SOV/32-25-1-22/51

TITLE:

Determination of Beryllium in Iron Alloys (Opredeleeniye berilliya v chernykh splavakh)

PERIODICAL:

Zavodskaya laboratoriya, 1959, Vol. 25, Nr 1, pp 52 - 52 (USSR)

ABSTRACT:

The quantitative beryllium determination can be carried out by the aid of β -oxy- α -naphthyl aldehyde (Ref 1). The complex compound obtained possesses a relatively high molecular weight, a constant composition and does not decompose on drying. The steel sample (0.1 to 0.3 g) is solved in hydrochloric acid and vaporized. The dried residue is then solved in water, filtered and added to the filtrate Trilon B (with some ammonia). The complex salt is thereupon precipitated with the above-mentioned aldehyde at 70° in the presence of ammonia. The yellow crystalline precipitate is filtered, washed, dried and weighed. Coefficient of equivalence for Be = 0.02565. Steel analysis results are tabulated (Table).

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Determination of Beryllium in Iron Alloys

SOV/32-25-1-22/51

There are 1 table and 1 Soviet reference.

ASSOCIATION: Permskiy gosudarstvennyy meditsinskiy institut (Perm' State
Medical Institute)

Card 2/2

KETOVA, L.A.; GUSEV, S.I.

Determination of bismuth by titrating with a solution of a
divalent vanadium salt. Izv.vys.ucheb.zav.; khim.i khim.tekh.
3 no.1:59- 61 '60. (MIRA 13:6)

1. Kafedra obshchey khimii Permskogo gosudarstvennogo meditsinskogo
instituta.

(Bismuth--Analysis)

(Vanadium salts)

GUSEV, S.I.; KUMOV, V.I.; SOKOLOVA, Ye.V.

Gravimetric semimicro determination of vanadium by means of
 β -hydroxynaphthylalethylamine and β -hydroxynaphthylaldehyde.
Zhur.anal.khim. 15 no.2:180-183 Mr-Apr '60. (MIRA 13:7)
(Vanadium--Analysis)

GUSEV, S.I.; KUMOV, V.I. [deceased]; SOKOLOVA, Ye.V.; FESIS, A.S.

Reaction of β -hydroxynaphthaldehyde- α -aminopridine with certain
bivalent cations. Zhur.neorg.khim. 6 no.8:1875-1880 Ag '61.
(MIRA 14:8)

1. Permskiy meditsinskiy institut, kafedra neorganicheskoy i
analiticheskoy khimii.

(Complex compounds) (Metals--Analysis)

GUSEV, S.I.; KETOVA, L.A.

Reactions of thiourea and ureaselenium complexes of bismuth with
picrolonic and picric acids. Zhur.neorg.khim. 6 no.8:1881-1884
Ag '61. (MIRA 14:8)

1. Permskiy meditsinskiy institut, kafedra obshchey khimii.
(Bismuth compounds) (Picrolonic acid) (Picric acid)

GUSEV, S.I.; KETOVA, L.A.

Potentiometric determination of trivalent thallium by means of
bivalent vanadium. Zhur.anal.khim. 16 no.5:552-554 S-O '61.
(MIRA 14:9)

1. Perm State Medical Institute.
(Thallium--Analysis) (Potentiometric analysis)

GUSEV, S.I.; SOKOLOVA, Ye.V.; BITOVT, Z.A.

Photometric determination of magnesium with the pieraminazo
reagent. Zhur.anal.khim. 16 no.6:674-678 N-D '61.

(MIRA 14:12)

1. Perm State Medical Institute,
(Magnesium--Analysis)

GUSEV, S.I.; KETOVA, L.A.

Determination of thallium and antimony present simultaneously.
Zhur.anal.khim. 17 no.1:137-139 Ja-F '62. (MIRA 15:2)

1. Perm Medical Institute.
(Thallium--Analysis) (Antimony--Analysis)

GUSEV, S.I.; SOKOLOVA, Ye.V.; KOZHEVNIKOVA, I.A.

Determination of chlorides by means of β -hydroxynaphthylal-
 α -aminopyridine. Zhur.anal.khim. 17 no.4:499-501 J1 '62.
(MIRA 15:8)

1. Perm State Medical Institute.
(Chlorides) (Pyridine)